

California Status Factors

Elcode NLCAL00007
Gname CHAENOTHECA FURFURACEA
Gcomname sulphur whiskers

Number of Occurrences

Comments Number of known occurrences in California = 1+ (see Hale & Cole 1988).

Number of Occurrences with Good Viability

U = Unknown what number of occurrences with good viability

Comments

Population Size

U = Unknown

Comments

Range Extent

U = Unknown

Comments Range in California not well understood.

Area of Occupancy

A = <0.4 km² (less than about 100 acres)

LA = <4 km (less than about 2.5 miles)

Comments Occupancy for this species, like epiphytic lichens and fungi, is difficult to estimate because it occurs in small patch colonies on a very specialized substrate, each colony covering only a few square centimeters or decimeters within a stand and then occurring again several hundred meters away. The occupancy given above is roughly estimated as the total worldwide distribution of the species; the actual coverage of the species condensed so as to be continuous may not be much more than a few tens of hectares.

Long-term Trend in Population Size, Extent of Occurrence, Area of Occupancy, and/or Number or Condition of Occurrences

C = Substantial Decline (decline of 50-75%)

Comments Most calicioid lichens and fungi inhabit aged bark or wood in sheltered locations protected from direct rain interception. This species is rather unusual in that it inhabits soils influenced by coniferous bark (generally sheltered coves under the bole of an old-growth tree, but occasionally within other overhangs with exposed roots) (Peterson & McCune 2000). In the Pacific Northwest of North America, most known occurrences are in conifer forests > 200 years old. Removal of old forests in North America and through the rest of the species' distribution has undoubtedly had severe impacts on the number of populations, population sizes, and average dispersal distance necessary to colonize new substrates.

Short-term Trend in Population Size, Extent of Occurrence, Area of Occupancy, and/or Number or Condition of Occurrences

D = Declining. Decline of 10-30% in population, range, area occupied, and/or number or condition of occurrences

Comments With advances in conservation, the removal of old-growth forests throughout the species range is slowing, but has not stopped.

Threats

B = Moderate and imminent threat. Threat is moderate to severe and imminent for a significant proportion (20-60%) of the population, occurrences, or area. Ecological community occurrences are directly impacted over a moderate area, either causing irreversible damage or requiring a long-term recovery.

Scope Moderate **Severity** High **Immediacy** High

Comments Worldwide, the species has gone through drastic declines since pre-industrial times. The Pacific Northwest, due to logging, has been no exception. However, the rate of loss in the Pacific Northwest has slowed. Although little is known about the reproductive and dispersal biology of this species, it is thought that the species can overcome some habitat fragmentation and, at this point, is fairly secure from extirpation or extinction. However, given the general old-growth association of this species, it should not be ignored in conservation actions.

Number of Appropriately Protected and Managed Occurrences

U = Unknown whether any occurrences are appropriately protected and managed

Comments

Intrinsic Vulnerability

A = Highly Vulnerable. Species is slow to mature, reproduces infrequently, and/or has low fecundity such that populations are very slow (> 20 years or 5 generations) to recover from decreases in abundance; or species has low dispersal capability such that extirpated populations are unlikely to become reestablished through natural recolonization (unaided by humans). Ecological community occurrences are highly susceptible to changes in composition and structure that rarely if ever are reversed through natural processes even over substantial time periods (> 100 years).

Comments Given high vulnerability rank because in most cases, it will not return to a forest for a century or more after a stand-initiating disturbance. Although the species is generally limited to substrates that are very slow to develop and the maturation time required between colonization and reproduction is unknown, the species does demonstrate a remarkable ability to disperse to appropriate substrates once they are available, even when those substrates are rather isolated. This may be due to use of a dispersal vector such as birds or arthropods which target similar habitats.

Environmental Specificity

A = Very Narrow. Specialist or community with key requirements scarce.

Comments

Other Considerations

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Grank S2S3 **Grank Date** 11/22/2004

Greasons

Known from few sites, and likely to be rare, the range is not well understood in California.

BCD Sources

New Sources

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Rikkinen, J. 2003. Calicioid lichens and fungi in the forests and woodlands of western Oregon. *Annales Botanici Fennici* (accepted, should come out in the first volume of 2003).
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